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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,865	02/18/2004	John A. Lawton	4676-7	6209
23117	7590	10/04/2006		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER HAMILTON, CYNTHIA	
			ART UNIT	PAPER NUMBER

1752

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/779,865

Applicant(s)

LAWTON ET AL.

Examiner

Cynthia Hamilton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/18/2006</u> | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Because the SUBSTITUTE decision mailed April 4, 2006, with respect to the Petition under 37 CFR 1.78 (a) (3), filed December 19, 2005 reversed the decision mailed March 9, 2006 on the same petition, and because the Final Office Action mailed March 17, 2006 was dependent upon the first decision to refuse grant of petition, the finality of the Final Office Action mailed March 17, 2006 is withdrawn in order to clarify the record and to give applicant full consideration in view of the reversal of decision by the Petitions Examiner.
2. Applicants have made new amendment to the application as of September 18, 2006 as an after final amendment. This is entered in full due to the removal of finality due to the reversal of the Petitions Examiner in the SUBSTITUTE decision mailed April 4, 2006. Also, applicants' request for Review of the Petition by the Office of Petitions filed September 18, 2006 is held moot in view of such a review already of record and resulting in granting of the Petition in applicants' favor.
3. The examiner cites the following paragraph from the SUBSTITUTE decision mailed April 4, 2006, with respect to the Petition under 37 CFR 1.78 (a) (3), filed December 19, 2005:

**The granting of the petition to accept the delayed benefit claim to the prior-filed application under 37 CFR 1.78(a)(3) should not be construed as meaning that this application is entitled to the benefit of the prior-filed application. In order for this application to be entitled to the benefit of the prior-filed application, all other requirements under 35 U.S.C. § 120 and 37 CFR 1.78(a)(1) and (a)(2) must be met. Similarly, the fact that the corrected Filing Receipt accompanying this decision on petition includes the prior-filed application should not be construed as meaning that applicant is entitled to the claim for benefit of priority to the prior-filed application noted thereon. Accordingly, the examiner will, in due course, consider this benefit claim and determine whether this application is entitled to the benefit of the earlier filing date.**

Under 35 USC § 120, applicants are also required to claim an invention disclosed in the manner provided by the first paragraph of 35 USC § 112 if they wish to obtain benefit of the filing date

of earlier applications. Applicants have not cited where such support is found in any of the parent applications cited. The examiner notes that this application is a continuation of Parent application Serial No. 09/948,713 filed September 10, 2001 and as such has the same content as the current application. With respect to Serial No. 09/538,940 and Serial No. 09/113,271, the content is not the same. These applications are not related to each other. It is Serial No. 09/948,713 which claims to be a continuation in part of each separately. Thus, there is no combination of Serial No. 09/538,940 and Serial No. 09/113,271 until the date of filing of Serial No. 09/948,713. Thus, combining in any way the disclosures of Serial No. 09/538,940 and Serial No. 09/113,271 cannot have a filing date perfection further back than the filing date of Serial No. 09/948,713 which is September 10, 2001. Applicants have established incorporation by reference to both Serial No. 09/538,940 and Serial No. 09/113,271 in Serial No. 09/948,713 and this incorporation again has a date of September 10, 2001. The examiner makes this clear as to set forth where full disclosure under first paragraph of 35 USC § 112 must lie to obtain the filing date of either Serial No. 09/538,940 and Serial No. 09/113,271. Each must fully support each claim in the instant application for any of the instant claims to have benefit of the effective filing date earlier than September 10, 2001. The claimed inventions in the instant claims are not disclosed in the manner provided by the first paragraph of 35 USC § 112 in either Serial No. 09/538,940 or Serial No. 09/113,271. Serial No. 09/538,940 does not set forth the upper range of 2.5 now present in all claims under consideration for the ratio of epoxy equivalents to hydroxy equivalents in the composition claimed. Serial No. 09/113,271 while setting forth this range does it for a different composition than that claimed. For example, the compositions of Serial No. 09/113,271 has no polycarbonate diol cited nor is there a compositions with 0% of hydroxyl-

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containing material present. Further, applicants have not pointed out where the amended claims are supported in either application for which they seek effective filing date as to remove rejections based upon Lawton (WO 00/03300) with a publication date of January 20, 2000 as evidenced by RN 4687- 94-9. Lawton is the PCT publication related to US application Serial No. 09/113,271. See particularly MPEP 2163.04. Without establishing an effective filing date of at least January 20, 2001, applicants cannot remove Lawton (WO 00/03300) as a reference under 35 USC 102(b) and thus a statutory bar. Removal of rejections under 35 USC 102(a) would require establishing an effective filing date back to Serial No. 09/113,271 which as a filing date of July 10, 1998. The filing date of Serial No. 09/538,940 is March 31, 2000 and thus not early enough to remove issues with respect to Lawton (WO 00/03300) under 35 USC 102 (a).

Applicants have not established either as setting forth as required under the first paragraph of 35 USC § 112 any of the claimed inventions set forth in instant claims 1-3 and 5-20. Thus, the rejections based upon Lawton (WO 00/03300) are repeated in this Office Action.

4. Claims 1-3 and 5-20 are rejected under 35 U.S.C. 102 (b or optionally a) as being anticipated by Lawton (WO 00/03300) with a publication date of January 20, 2000 as evidenced by RN 4687-94-9. Lawton is the PCT publication related to US application Serial No. 09/113,271. With respect to instant claims 1-3 and 5-20, Examples 1-6 of Lawton anticipate the instant compositions and articles as set forth in the Table bridging pages 34-35 in Lawton. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989). "[W]hen, as by a recitation of ranges or otherwise, a claim covers several

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compositions, the claim is 'anticipated' if *one* of them is in the prior art." *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing *In re Petering*, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)) (emphasis in original) (Claims to titanium (Ti) alloy with 0.6-0.9% nickel (Ni) and 0.2-0.4% molybdenum (Mo) were held anticipated by a graph in a Russian article on Ti-Mo-Ni alloys because the graph contained an actual data point corresponding to a Ti alloy containing 0.25% Mo and 0.75% Ni and this composition was within the claimed range of compositions In this instance a species within the range of compositions claimed by applicants found in Lawton et al in each of the compositions of Examples 1-6 of Lawton as well as the two comparison compositions of Lawton reading on some of the claimed invention. The composition of these examples of Lawton are set forth on pages 34-35 and the abbreviations being set forth on the bottom of page 32 and top of page 33, with "epoxy" being identified as "3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate", polyTHF as polytetrahydrofuran linear chain (1000 mw), FRI-1 being 1-hydroxycyclohexyl phenyl ketone, FRI-2 being 2-hydroxy-1 {4-(2hydroxyethoxy)phenyl} -2-methyl-1-propanone, FRI-3 being 2,2-dimethoxy-2-phenylacetophenone, Ebecryl being the acrylate ester of bisphenol-A epoxy that is further identified as Ebecryl 3700 which is evidenced by RN 4687-94-9 to be bisphenol A diglycidyl ether diacrylate, CHDM being 1, 4 - cyclohexane dimethanol diacrylate ester with CHDM and EBECRYL making up instant B and CatI being a mixed triarylsulfonium hexafluoroantimonate salts in 50% by weight propylene carbonate, i.e. the cationic initiator. All of the FRI-1, FRI-2 and FRI-3 are free radical initiators. The energies used are found in Table 1 and wavelengths for imaging are found on page 36 and processes for the intended use of these compositions of Lawton are found in claims 13, 14 and 15. With respect to instant claims 10-11

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and 14, the examiner notes with respect to the limit of "10-20% by weight of an acrylic material selected from aromatic acrylic material, cycloaliphatic acrylic material or combinations thereof, the Examples of Lawton anticipate those wherein 7% of CHDM, i.e. 1, 4 – cyclohexane dimethanol diacrylate ester, reads on the choice of cycloaliphatic acrylic material. With respect to instant claims 1-3, 5-9, 12-13 and 15-20, Examples of Lawton anticipate those wherein 7% of CHDM, i.e. 1, 4 – cyclohexane dimethanol diacrylate ester, reads on the choice of cycloaliphatic acrylic material, all combinations of CHDM and Ebecryl of Lawton anticipate the instant invention and all compositions wherein Ebecryl is used by Lawton anticipate the instant invention.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-3 and 5-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no disclosure found in this application or parent Applications Serial No. 09/948,713, Serial No. 09/538,940 or Serial No. 09/113,271 which supports the instant claimed invention. The compositions of Serial No. 09/113,271 while having the upper range of

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2.5 with respect to the ratio of epoxy equivalents to hydroxyl equivalents in their compositions  
reference the compositions of

The invention also relates to the above process wherein the composition comprises:

- (a) about 20-40% by weight of an epoxide-containing material;
- (b) about 5-40% by weight of an aromatic or cycloaliphatic acrylic material;
- (c) about 5-50% by weight of a reactive hydroxyl-containing material;
- (d) at least one cationic photoinitiator; and
- (e) at least one free-radical photoinitiator.

from page 5 of the specification of Serial No. 09/113,271 and

It is sometimes beneficial to describe the compositions in terms of equivalents or milliequivalents of hydroxyl-containing material per 100 grams of total composition. The hydroxyl equivalent weight can be derived by dividing the molecular weight of a molecule by the number of hydroxyl groups contained within the molecule. The total number of equivalent of hydroxyl in a composition is determined by first calculating the hydroxyl content of each component, i.e., epoxide-containing material, epoxy-acrylate, polyol, initiator, etc. The individual component hydroxyl equivalent weights are weight averaged for the entire composition. All hydroxyls are assumed to be reactive, regardless of steric hindrance. It is preferred that the composition comprise from about 140 to about 180 milliequivalents of reactive hydroxy-containing material per 100 grams of composition. It is most preferred that the ratio of epoxy equivalents to hydroxyl equivalents be in the range of from about 1.5 to about 2.5; most preferably 1.9 to 2.4.



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from page 31 of Serial No. 09/113,271. The ranges for amounts of components in Serial No. 09/113,271 are not the same as in the instant claims of which claim 1 is reproduced below as example.

1. (Currently Amended) A photosensitive composition comprising:

- (a) 30-70% by weight of an epoxide-containing material;
- (b) 5-35% by weight of an acrylic material selected from aromatic acrylic material, cycloaliphatic acrylic material, or combinations thereof;
- (c) 0-40% by weight of a hydroxyl-containing material, wherein the hydroxyl-containing material is selected from 1,4-cyclohexanedimethanol, aliphatic and cycloaliphatic mono hydroxyl alkanols, an aliphatic polycarbonate diol, and linear and branched polytetrahydrofuran polyether polyols, and combinations thereof;
- (d) at least one cationic photoinitiator; and
- (e) at least one free-radical photoinitiator,

wherein a ratio of epoxy equivalents to hydroxyl equivalents in the composition is in the range of from 1.5 to 3.82.5.

The compositions of Serial No. 09/538,940 and 09/948,713 are more like the instant invention but disclose a ratio of epoxy equivalents to hydroxy equivalents as follows from page 31 of the original specification:

It is sometimes beneficial to describe the compositions in terms of equivalents or milliequivalents of hydroxyl-containing material per 100 grams of total composition. The hydroxyl equivalent weight can be derived by dividing the molecular weight of a molecule by the number of hydroxyl groups contained within the molecule. The total number of equivalents of hydroxyl in a composition is determined by first calculating the hydroxyl content of each component, i.e., epoxide-containing material, epoxy-acrylate, polyol, initiator, etc. The individual component hydroxyl equivalent weights are weight averaged for the entire composition. All hydroxyls are assumed to be reactive, regardless of steric hinderance. It is preferred that the ratio of epoxy equivalents to hydroxy equivalents be in the range of from 1.5 to 3.8, more preferably 1.8 to 3.4.

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This is for the compositions of this application which are

	<b><u>SUMMARY OF INVENTION</u></b>
10	This invention features photosensitive compositions that, upon exposure to actinic radiation, have one or more of the following polypropylene characteristics, specifically:
	(i) an elongation at yield in the range of 7% to no yield;
15	(ii) a tensile modulus in the range of 1000 to 1600 N/mm <sup>2</sup> ;
	(iii) an average elongation at break of at least 10%; or
	(iv) a yield stress of 28 to 40 kN/mm <sup>2</sup> .
20	The invention also relates to a three-dimensional article formed from a photosensitive composition including
	(a) 30-70% by weight of an epoxide-containing material;
	(b) 5-35% by weight of an acrylic material selected from aromatic acrylic material, cycloaliphatic acrylic material, or combinations thereof;
25	(c) 0-40% by weight of a hydroxyl-containing material;
	(d) at least one cationic photoinitiator; and
30	(e) at least one free-radical photoinitiator.

Thus, no original written disclosure as required by 35 USC 112, first paragraph, is found by this examiner which supports the instant claims 1-3 and 4-20 as they are now written. Applicants has not pointed out where the amended (or new) claim is supported, nor does there appear to be a written description of the claim limitation. See particularly MPEP 2163.04.

8. Applicant's arguments filed 18 September 2006 have been fully considered but they are not persuasive. The examiner agrees that US 2002/0106584 to Lawton et al is removed as prior

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art. Arguments that Lawton (WO 00/03300) is not prior art have been addressed above. The examiner disagrees because applicants have not shown support as required under 35 USC 120 with respect to 35 USC 112, first paragraph, in parent applications of filing date sufficient to remove Lawton (WO 00/03300) as a reference under 35 USC 102 (b). Applicants' incorporation by reference of Serial No. 09/538,940 and Serial No. 09/113,271 does not entitle applicants rights to exclude Lawton (WO 00/03300) as prior art in any fashion. Applicants have failed to establish an effective filing date for the instant claims any earlier than that of the instant application because applicants have failed to establish even a filing date beyond that of the filing of the amended claims of 18 September 2006 due to the rejection of record under 35 USC 112, first paragraph, given above. The rejections given above are properly given and thus not removed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331.

The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cynthia Hamilton  
Primary Examiner  
Art Unit 1752

September 28, 2006

**CYNTHIA HAMILTON**  
**PRIMARY EXAMINER**

**CYNTHIA HAMILTON**  
**PRIMARY EXAMINER**